

VA 1260 Box 0004 15. G. 14
Science and Art Department of the Committee of
Council on Education.

HINTS ON THE BUILDING AND MANAGEMENT
OF SCHOOLS,

WITH REFERENCE TO

THE SELECTION, CONVEYANCE, AND LAYING-OUT OF SITES;
PLANS AND SPECIFICATIONS OF BUILDINGS;
FURNITURE; ORGANIZATION; MANAGEMENT; SCHOOL-FEES; SUBSCRIPTIONS;
AND THE
OBTAINING OF GRANTS FROM THE COMMITTEE OF COUNCIL ON EDUCATION:

A LECTURE
DELIVERED AT SOUTH KENSINGTON

ON

The 12th Day of December 1859,

BY

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LATE ASSISTANT SECRETARY TO THE COMMITTEE OF COUNCIL ON EDUCATION.



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LECTURE.

HAVING received from the Secretary of the Science and Art Department of the Committee of Council on Education an invitation to deliver, in the theatre attached to their museum and schools at South Kensington, a lecture on the building and furnishing of Schools, I thought that such official experience as I had gained with reference to those subjects might be most usefully presented in a paper, which should offer to persons intending to undertake the erection and management of schools, and to correspond with the Committee of Council on Education, with a view to obtain aid from the Parliamentary grants, a connected series of hints for their guidance from first to last, not only in selecting, conveying, and laying out the sites; in planning, erecting, and furnishing the buildings; in organizing and managing the schools; in dealing with the parents of the scholars; and in respect of the school fees and other funds; but also in the conduct of their correspondence with the Privy Council.

Such then are the contents of the following lecture. The title under which it was advertized and delivered was "How to set about the Building of a School;" the title now assumed, "Hints on the Building and Management of Schools," more correctly describes its subject.

When the idea of building a school occurs to anyone, he probably at once asks himself whether he shall apply to the Government for a grant, and most probably he gives an affirmative reply to this question.

Let him then take no irrevocable step in reference to the site, or to the plans, or to any other details, until he has

received from the Committee of Council on Education their preliminary forms of inquiry and instruction. Let him not hamper himself with a site which possibly they may object to, nor with plans and specifications which they may see to be defective. Let him, at the outset, write and send by the post to "the Secretary, Committee of Council on Education, Privy Council Office, Downing Street, London, S.W.," the briefest possible letter:—"Sir, have the goodness to send to me the forms for an application for a grant to build a school.—Your obedient servant.—Name, address, date."

Instead of pursuing this simple course, persons intending to build schools too commonly first involve themselves with unsuitable sites and defective plans, and then either write immense letters full of useless details,—useless at this stage of the case, because they must be stated at a later stage in particular printed forms,—or take an useless journey to London, to obtain what is called a "personal interview" at the Council Office, for the purpose of stating the case, and asking for the requisite instructions.

Now all the conditions on which grants are made, and all the instructions which the Committee of Council can give to school builders, are clearly set forth in printed documents. These documents must be read by the applicants, and may be just as well understood by them at a distance as in Downing Street; and as the whole of the details in each case must be recorded in writings, which must be lodged in the Council Office, ready to be produced to Parliament if need be, the cases are very few indeed in which the expense and trouble to the applicants and the loss of time to the officers of the Department are really compensated by the advantages of a personal interview. It should be remembered also that a personal interview not unfrequently gives rise to difficulties of its own, through misapprehension or misrecollection of what passed. The public have little idea how much the time of public officers is wasted, and (let me

add) how much their temper is tried, by unnecessary, and therefore useless interviews. Let me advise you to call at the Council Office only when you have difficulties capable of solution by conversation, and incapable of solution by correspondence, and I will give you tokens by which you may ascertain whether, in the opinion of the officer who receives your visit, you are profitably or unprofitably employing his time. If he makes notes, asks questions, and occasionally interjects a smile or a nod, a "Well," or a "Yes," you may conclude that you are giving to him information which elucidates your case, or seeking from him information which can most conveniently be given orally. If, however, he sits immovable, looking straight into your face, without nod, smile, or any expression on his own countenance, and without any vocal interjections, I recommend you to wish him "Good morning," for, depend upon it, you will do no good by taking up any more of his time.

In reply to the note which I advised you to send by the post, you will receive, within two or three days, a packet containing four documents: 1st, a brief letter of general instructions; 2nd, a form of certificate, which is a summary of the conditions on which the grants are made; 3rd, a pamphlet, containing diagrams and general observations, calculated to give you clear ideas about your buildings and furniture; and 4th, a form of memorial, in which you will have to exhibit, briefly but completely, all the main points of the case. The memorial, the printed form of which you will have to fill up, not to copy, is so framed, with blanks to be supplied, and with instructional notes, that it is easy to see what information is required; and when you have given it accurately and fully, to the satisfaction of "My Lords," you are more than half-way towards your goal, the grant.

The four documents will suggest caution and deliberation respecting the situation, constitution, organization, structure, cost, and income of your school; and all these points should

now be thoroughly talked over, and talked out, not merely with your own friends and adherents, but with the wisest and most influential of the parishioners, whether your own friends or not, of the several classes of non-resident proprietors, resident gentlemen, tradesmen, and parents of the expected scholars.

The first points, which require to be examined with great carefulness and honesty, are too often taken for granted. Is a new school really wanted, not merely to increase the influence or to gratify the desires of a particular congregation or minister, but for the education of the poor of the place? and if so, what kind of school will best supply that want? A school of that kind, and no other, is a legitimate object of the Parliamentary grant.

If a public school already exist, however ineffective its present management, and however bad its present buildings, and even its present site may be, it is generally far better to persist again and again in endeavours to improve that school than to set up another by the side of it. There is scarcely any school so hopelessly bad as to be incapable of sufficient improvement by the joint action of the Committee of Council on Education and of the Commissioners of Public Charities in co-operation with persons locally interested. Whereas, if you establish a new school in opposition to an old one having any endowment in money, land, or buildings, you will probably find, to your sorrow, that the old school can never be got rid of, and that the two schools perpetually injure each other. Not only will the pecuniary resources of the friends of education in your neighbourhood be divided, and therefore impaired in their effects, but the discipline of the two schools will suffer. The parents of the children, affronted on the most ridiculous grounds, will remove their children, as caprice suggests, from one school to the other. Punish little Jack or Bill for any fault, and immediately he

will be transferred in state by his affronted mother to the opposition school.

Give the greatest possible publicity to the intention to build a school. This point is seldom sufficiently attended to in the first stages of such an undertaking. If the Committee of Council would decline to receive memorials until the intention to present them, and statements of their principal contents, had been adequately advertised, much heartburning and many ultimate disappointments of incipient success would be prevented, and the constitution of many schools would be improved.

You, however, have of course no desire to steal a march on your neighbours; your intention to build a school has been abundantly published and canvassed; and the parishioners have come to the conclusion that new parochial schools are required for some definite number of children. To bring all those children to the schools, and to obtain the general co-operation of the parish in maintaining and managing them, you will place them on a basis which shall be sufficiently definite to satisfy religious zeal, and to preserve and inculcate religious truth, but sufficiently elastic to satisfy the conscientious scruples of those parents whose ideas of religious truth do not coincide at all points with your own. If you are the clergyman of the parish, I hope that you will be able to agree with your parishioners that, while the children of all those who may be willing unreservedly to entrust them to your teaching and training in the doctrine and discipline of Christ, "as this Church and nation have "received the same," shall be so taught and trained, by the help of God's grace, as systematically and effectually as possible, the children of those who may not be thus willing, shall not therefore be excluded from the school; and if to some, not remembering that conscience obliges us to that alone which is possible, this agreement appears to be latitudinarian, you may say that you mean to do the best that you

can; that you do not propose to withhold any Christian doctrine from those whose parents shall not reject it for them; that to those children whose parents will allow them to attend your teaching you will gladly teach all that the Church has commissioned you to teach; but that to children not members of the National Church, whose parents absolutely reject for them your doctrinal teaching in its integrity, you will not omit that "forbearance and Christian tenderness" which you find recommended in a Report published in 1857, by the National School Society. The Report of the Welch Education Committee of the National Society, published, with commendatory words, by the General Committee of that Society in 1857, contains these truly Christian words: "The Church can enter into no compact to withhold from her members any part of that form of sound words which she is commissioned to proclaim; but, if there are found in any corner of the land children who will not receive her religious teaching, it assuredly must be her proper duty to supply to them so much truth as they may accept, though less than she would desire to give; and, by ordering fitly the occasions, and manner, as well of giving as withholding her own special ministrations, she will evince the truest estimate of her position and duty, and best promote the growth and spread of her Master's religion."

Having then agreed that the new school is to be established for a definite number of children on a religious basis, but without religious exclusiveness, you may hope for the general support of the parishioners.

You must now look out for a site, and endeavour to estimate your resources for the pecuniary support of the school from year to year. At this juncture, perhaps, several plots may be offered to you for little or nothing; and possibly that may be a fair price for some of them.

Be sure you do not accept a site because it is offered as a gift, or the fag end of a chapel yard. The site should combine, as far as possible, the following merits:—The plot should be spacious, airy, capable of good drainage, near to the homes of the poor, not far from the church, abutting on a high road or street, well-shaped, conspicuous, and, though last not least, remote from burial-grounds, open sewers, noxious trades, and other abominations justly hateful to sanitary reformers,—i.e., to all persons of common sense. Determine to have a plot sufficiently spacious. You must have a playground for your infant-school. You ought to have playgrounds for the boys and girls. At the very least, let there be space to drill them. If all the boys and girls in our elementary schools were regularly drilled, the health, strength, and growth of the population would be strikingly improved. The loutishness of our poor men and women would disappear. Our young men would be better grown, better set up, more robust, active, and handy, and much better fitted to take afterwards, if need be, the technical drill of the army, or of the militia, or of the volunteer rifles. Our young women, also, would be healthier and more shapely, and better mothers of children.

Look through the parish; ascertain which is the best site; and resolve to have it. People will tell you that it cannot be had; either it "belongs to the church," or is "in marriage settlements," and the "owner is only tenant for life," or he is a "minor," or a "lunatic;" or the owner is an "old woman," and "half lunatic;" or it is "in chancery," or "in the hands of trustees," or it "belongs to the Crown." Turn your deaf ear, if you have one, to all these objections; for every one of these cases the School Sites Acts, which you will obtain from the Council Office, provide an easy and cheap solution.

You must not be contented with any interest short of the fee simple; but do not turn away from an eligible site of

copyhold or leasehold tenure, for the School Sites Acts may come to your aid, and enable you to convert the lesser tenure into a freehold. When you have found your site, do not enter into an absolute contract to take it, but secure the right to take it by a given day (say) one month thenceforward. This is to give you time to ascertain whether the Committee of Council will approve of the site. For this purpose, you must send to the office, with the memorial, a plan of the site, drawn to scale, and showing the dimensions (in figures), the levels, the boundaries, abutments, and approaches.

While this has been going on, you should also have taken measures to ascertain your probable means per annum for the pecuniary support of the school, under the following distinct heads:—Children's pence, annual subscriptions, collections at church or chapel, endowment, if any.

The Committee of Council will not entertain your application unless you can show to them a probability that, from some or all of those sources, you will have an annual income at least equal to 7s. 6d. for each child; but I advise you not to erect your school, unless you can see your way to a considerably larger income from the children's pence alone. Do not jump to the conclusion that the parents cannot pay more than a penny or twopence a week. Ascertain what is the real market value of existing local education, *i.e.*, how much is now actually paid per child, per week, at the dames' schools of the neighbourhood. You will find that it varies from 4d. to 8d., or more; and that those fees are paid by little tradesmen, artisans, and day-labourers, under the idea that they are buying, at a fair price, the best education that they can give to their children. You are going to offer for sale an article immeasurably superior to that which is sold at the other shops. Do not begin by beating down the market price, and depreciating your own goods. Put the full value on what you have to sell. If you ask for it less than the

market value, the buyers will believe it worth less than the price asked. Do not say, "the school-fee is so much, per child, per week; but the children of farmers and tradesmen may come to the school on paying so much more than the fee." Say just the reverse: "the school-fee is so much; but the children of artisans and labourers may come to the school on paying so much less than the fee." Suppose you say "the school-fee is at the rate of 6d. a week; but the children of artisans and labourers may be admitted on payment of 4d. a week. All fees to be paid quarterly, in advance." This will give you (say) 6s. a quarter, or 24s. a year, from farmers and tradesmen; and (say) 4s. a quarter, or 16s. a year, from poorer persons. These fees may seem to you to be large; if they seem to you to be too large, you must reduce them; but I beg you to consider that they are not so large as the charges in many dames' schools of very inferior character; and that it is of the greatest possible importance to the well-being of the poor that you should not weaken their natural sense of the parental obligation to educate their children. There will, however, doubtless, be some children whose parents cannot afford these fees; but let the exceptional cases of those children be exceptionally provided for. Do not lower the scale of the whole school to the level of the poorest and lowest class. Endeavour to get the guardians of your parish to give effect to the provisions of Mr. Denison's Act, the 18 & 19 of Vict. cap. 34., under which they may pay the school-fees of any child whose parent or guardian is in receipt of out-door relief. You may also raise and administer a small charitable fund, from which to pay, in whole or in part, the school-fees of those parents who are semi-paupers, but not in receipt of out-door relief. You cannot successfully adopt these measures without faith in their efficacy; but, if you have that faith, I believe you will find them efficacious. I never knew a case in which a wise attempt to raise the rate of school-fees, within reason-

able limits, resulted in failure. I have known many cases where, by this means, not only the income, but the number and attendance of the scholars, the parents' appreciation of the school, and its whole tone and character have been signally improved.

To obtain funds for your building, and promises of annual subscriptions in aid of the school-fees, you must of course have a canvassing committee. It should be large, and include not only gentlemen and local tradesmen, but a good representation of the parents of the expected scholars. Take care that every one is asked, in due order, and in a manner that does not invite a refusal by exhibiting an expectation of being refused. I have obtained large subscriptions from persons thought so unlikely to subscribe that no one else would apply to them. Never omit to apply to the non-resident owners of property. Be sure you get the parents of the expected scholars to assist in the canvass; and let them see that you value their co-operation much above their money's worth.

I do not say never accept, but I advise you never to seek, the gratuitous services of a solicitor or architect. The true professional responsibility is scarcely consistent with gratuitous performance. You must not look a gift horse in the mouth; and you can scarcely haul over the coals a gratuitous attorney. Engage professional services on the usual professional terms; and when those services have been rendered and remunerated, then and not sooner, is the proper season for professional donations, if any, to be made.

When your memorial, and the plan of your proposed site have been approved by "My Lords," they will send to you two distinct sets of instructions, which you may find more or less easy to understand; 1st, with reference to the plans, specifications, estimates, and available funds for the building; and 2nd, with reference to the title to the site, and to its conveyance in trust.

The documents which relate to the plans, specifications, and estimates should form a part of the general instructions which you should now give to the best architect that you know of, or to a few of the best architects in competition, to prepare the plans and specifications.

When the Committee of Council on Education was first created, in 1839, so little attention had been given to the planning of schools, that they were very commonly erected by the village bricklayer and carpenter, by rule of thumb, without any plans at all. The National Society, not so wise then as now, had unfortunately proclaimed that "any shape" would do for a school, and that there was no better model than a "common barn." The organization of schools had been little studied. A minimum education was given at a minimum cost. Babies, of eight and ten years old, were still set to teach other babies of the same age; the national infantry were still drawn up in Dr. Bell's hollow squares; writing-desks were few, scanty, and fixed to the walls; and Dr. Bell's original plan of teaching poor children to write, by marking out letters with their fingers in shallow troughs of sand, had not long been abandoned. Of apparatus there was little but a few slates; of maps there was perhaps one, a meagre map of Palestine; of books there were scarcely any but the Holy Bible. In the Holy Bible, used as a primer, little children were drilled in spelling and reading; and their arithmetic was too often drawn from the same source. When the New Zealander takes up his proper position upon London Bridge, will he be able to credit the statement that, in the 19th century, a manual of arithmetic was published by a learned divine, an excellent person, for the use of National Schools, in which, in order to give to children a reverence for sacred things, the sums set were drawn from historical statements of numbers in the Holy Scriptures? "There were 12 patriarchs, 12 apostles, and 4 evangelists; add the patriarchs and evangelists together;

"subtract the apostles, what is the remainder?" "Solomon had so many wives and so many concubines; add the concubines to the wives, and state the result."

The buildings were low, thin, dingy, ill-drained, often without means of warming, often without proper conveniences; with no furniture but a teacher's desk, a few rickety forms, a rod, a cane, and a fool's-cap; the floors were almost invariably of brick—the worst kind of floor, as it is tenacious of moisture, cold to the feet, easily abraded into red dust, and soon worn into holes. There were rarely any porches or lobbies for the caps and cloaks of the children. If there were a house for the teacher, it was seldom such a house as a teacher of the present day would like to inhabit.

Under these circumstances, when the Committee of Council on Education requested the applicants for grants to exhibit plans and specifications of their proposed buildings, the request was often regarded as an insult. "Plans and specifications! why put me to the expense of plans? do my Lords suppose that I cannot build a school without plans?" Others were milder or more modest, and sent plans about the size of the palm of my hand, with a few indistinct scratches upon it. Now, however, all this is improved. The National Society has long been wiser than it was in 1839. It has set a splendid example to the other educational societies; they all vie with each other in architectural exploits; and the land is adorned with schools. The most celebrated architects undertake to design these buildings; and give their minds to the designs. No one now thinks that a school can be built anyhow, without any reference to the uses to which the building is to be applied.

Of course a school may be held in almost any building; and a clever teacher may teach cleverly almost anywhere; but the shape of a school-room is nevertheless important as regards (1st) the cost of the building; (2nd) the convenience

of organization and supervision; and (3rd) the strength of the teacher. Persons used to go, and some persons still go, to an architect, and say, "Let me have a plan of a school for (say) 100 children, allowing six square feet to each child." Now, what could an architect do, thus instructed? In the first place, no school can be so organized that six square feet per child will afford a sufficient area: and, in the second place, you can no more determine how many square feet, per scholar, will suffice in a particular school, without reference to the peculiar organization of that school, than you can determine how many guests can sit down to dinner in a dining-room, without knowing the shape of the room, and whether the table is round or oblong. The capacity of a school-room depends on the organization of the school, on the length and breadth of the room, and on the positions of the doors and fire-places.

Before you instruct an architect to prepare plans, determine how many scholars you will provide for, and on what system you will organize the school. How many boys, how many girls, and how many infants? Shall the boys and girls be instructed in one room as a "mixed" school; or in two separate rooms? If you wish to have a perfectly convenient building you must determine these questions before you instruct your architect. In your mind's eye you must see the several departments and classes of the school at work; and then, the area necessary for each portion of the work of each class being calculated, you may surround the scholars (as it were) with the proper walls, and you may give such instructions to your architect as will enable him to prepare a convenient and economical plan.

It is possible to organize a school in a great variety of ways; but, given the case that we have to deal with in educating the poor, *i.e.* given one principal teacher, assisted only by pupil-teachers, to instruct the greatest possible number of children, I am satisfied that the organization,

recommended by the Committee of Council on Education, and commonly used in the best National and many other schools, is on the whole by far the best; and therefore to this system of organization alone I shall at present refer. It is not my business to give a series of plans for schools. That is the proper work of architects.

This diagram, No. 1, which the officers of this department have been so good as to prepare for me, is intended to serve as a type on which schools of various sizes, but of the organization which I recommend, may be planned.

You see a principal school-room, measuring 45 ft. 6 in. in length and 20 feet in width. It will accommodate 84 children, in four classes, of 21 children in each class. Let us suppose that it is a "mixed" school of 42 boys and 42 girls. Opening to the centre of this room by a large double door is a class-room, having a gallery, for the occasional instruction of one or two of the classes. Or, if necessary, it may be used as an additional school for 40 infants. In the latter case, however, the large opening should be reduced, and there should be only a small double door. There are separate lobbies for boys and girls. A divisional wall separates the boys' side from the girls' side of the premises of the school in front; and a similar wall separates the offices in the rear of the building; so that there is absolutely no communication between the portions assigned to the two sexes except within the school-room and class-room. If the school is not to be "mixed," but wholly for one sex, you have only to omit a lobby and the two divisional walls.

The length of the room is exactly what is necessary for 84 children. If it were never to be used except for the ordinary work of the school, the width might be reduced from 20 to 18 or even to 17 feet; but for special occasions, such as general examinations, distributions of prizes, lectures (and I may add tea-parties), the managers of a school very generally desire to have a width not less than

20 feet. A greater width would involve an unreasonable waste of materials, *i.e.* of money.

A school for 84 children ought to be divided into four classes, and every child in each class ought to have a desk to sit at, as well as a bench to sit on. Each child so seated requires 18 inches of elbow room on its desk. For each class, therefore, benches and desks ought to be provided in lengths of some multiple of 18 inches. If four children are to occupy each row of a class, or group of benches and desks, each bench and desk should be 6 feet long; if five children, 7 feet 6 inches long; if seven children, as in this diagram, then their benches and desks should be, as you see them, 10 feet 6 inches long; and if eight children, (there should never be more than eight in a row), then the benches and desks should be 12 feet long. These benches and desks are best arranged in groups of three rows. In groups or classes of more than three rows of benches and desks, some of the children must be at too great a distance from their teacher for seeing and hearing. They can very rarely indeed be efficiently managed by a man, and I should say never by a woman; at least I am sure that it would not be a very nice woman whose voice was loud enough, and whose strength was strong enough, for that effort. Between the 1st and 2nd and the 3rd and 4th groups, you must have a passage, 18 inches in width, to enable the children and their teacher to pass in and out. Between the two central groups you require only a space of (say) 6 inches for separation. We have now four times 10 feet 6 inches = 42 feet, appropriated to the benches and desks, + 3 feet 6 inches appropriated to passages and separation = a total length of 45 feet 6 inches, which is neither more nor less than the exact length required for 84 children. Then as to the width of their room. The width of each desk should be 1 foot, of each bench 7 inches, of the space between each bench and its own desk 3 inches. To enable the teacher to approach each child without dis-

turbing it or others, there should be a passage 14 inches wide between the wall and the back of the hindmost bench, and a passage 12 inches wide between the front of the hindmost desk and the back of the middle bench. The teacher needs not to pass behind the first row of children, as he has them immediately before him when in his ordinary station in front of the class; and therefore all that is required between the front of the middle desk and the back of the first bench is a space of 7 inches only, to allow any child on that bench to go in or out without disturbing the rest of the row. It is important to make the groups as compact as possible. Each group then occupies 8 feet 3 inches of the width of the room. The teachers and their black-boards require a space 6 feet wide, in front of the groups; and so we see that if the 84 children were always seated at their desks they might be accommodated in a room measuring 45 feet 6 inches in length by 14 feet 3 inches in width. It is bad, however, physically and mentally, for the children to be always seated. In front of their desks there must be room for their teacher to group them around him, and to move them about. A total width of 17 or 18 feet would amply allow for these purposes; but, for the other objects to which I have adverted, the extra 2 feet may be conceded, and so we get our width of 20 feet.

You see that to make the room wider would be a waste of space; that to increase its capacity you must increase its length; that to avoid wasting any part of its length, you must have no door nor fire-place in the wall behind the desks. A fire-place there would either roast the children, or waste a space of at least 5 feet of the length of the room, which, multiplied by its width, 20 feet, would be equal to an area of 100 square feet wasted.

In extreme cases it may be necessary to have groups of benches and desks on two opposite sides of a room; it should then be not less than 30 feet wide; but this arrangement has many inconveniences, and I recommend you to avoid it if

possible. The fire-places are at the two ends of the room, in the corners, where the fires, though out of the way of the children and of the teachers, can be seen from all parts of the room. The flues may be "gathered over" and carried up in the gables. The walls all round are free for maps, diagrams, and pictures.

In the afternoon, when the girls are employed in needle-work, in which I hope you will make them proficient, they will occupy one end of the room, and the boys the other. It may be divided by the curtain which you see marked, and access to the class-room can be had from either side of the curtain. Each lobby has the benefit of warmth from an adjoining fire. The class-room, when lectures are given, may serve for the lecturer's room, and a lending library may be kept here. For these purposes the room may be entered from one of the lobbies, without passing through the school. The door which opens from the lobby to the class-room should, however, be ordinarily kept locked. Windows are shown, but they should be high up. Get your light as high as possible, plenty of it, and from all quarters if possible, by stilted windows in the long walls, by great windows in the gables, by dormer windows, and (best of all, in my opinion) by vertical skylights. No wretched little diamond quarries, but big panes of white glass. Let all windows be made to open. Have blinds to the east, south, and west. Never let the children or the teachers sit or stand in front of an unblinded window on a bright day. If you do this, you may do more than you intend towards blinding the children and teachers. When I go into a school-room and see the poor things blinking in the face of a streaming sun, I cannot help thinking that the managers should be indicted for cruelty. Never introduce a window in such a position that a child standing in its place at its desk or on the gallery will be projected in front of the light. As far as may be, let your light from different quarters be equalized, so that

strong shadows may not be cast. If the faces of the children are in a full light, an equal light should be cast on the teacher's face and board, otherwise they will be in shadow. Do not place a gallery in a school-room at right angles, or opposite, to the benches and desks; if the gallery be in the same plane as the benches and desks, the teacher, instructing a class on the gallery, retains a command of the rest of the room. The seats of a gallery (not intended for infants) should be fitted with backs, which are not needed in the desked groups, as the children receive support from the desks. The height of a seat should be such that the knees of a child seated thereon shall be bent at a right angle; the desks for the girls should be made with flaps to let down for needlework, leaving only a ledge horizontal to hold cottons and scissors, and allowing space for the girls to place their work on their knees.

Be very particular in your specification for the floor of the school-room. Oak being too expensive, the planks should be of the best deal, perfectly seasoned, and well laid down. If they are cut into short lengths they will be the less noisy.

Make your school-rooms as comfortable and as pleasing to the eye as possible. What can be more depressing than the appearance of many school-rooms which exhibit either extreme of bare walls, or of superabundant hangings of untidy maps, ugly pictures, threatening texts? The latter extreme is the worse of the two. I have seen school-rooms whose walls have been so huddled all over with such things as to make one imagine oneself in an ill-arranged religious toy-shop. I advise you to batten your walls, which will add a little to the cost, and a great deal to the comfort. If you will paper your battened walls with a few good bright maps, a few good diagrams, a few good prints, and a very few well-chosen texts, and if, round each of them, arranged with good taste, you will paste a little border of coloured paper

to set it off as by a frame, the cost will be trifling, and the educating effect will be very great; and if you will have the whole surface well sized and well varnished, the walls may be occasionally washed, and will not require to be repapered for many years. The ground colour of the walls should be light and warm; avoid yellow, which I believe to have an injurious effect on health. Instead of smothering the walls with prints, have as good and as large a collection of prints as possible in strong books, with leaves of brown holland; you will find them repay you for the trouble and expense. Let such texts as you select be rather soothing and elevating than grim and depressing. It shocks me to see on the walls of a school, perhaps an infant school, the most awful texts, "Our God is a consuming fire;" "All liars shall have their part in the lake that burneth with fire and brimstone;" "The wicked shall be turned into Hell." Of course truths so fearful and momentous as those which are contained in such texts must be brought home to the consciences of children when occasion requires it; but to place them thus constantly and prominently before their eyes seems to me to be calculated to give one-sided notions of the gospel of grace and mercy. I cannot pursue this subject; it is too grave to be fully dealt with here. Let us turn to other topics.

The woodwork, especially in the higher portions of a school-room, is very commonly too much darkened.

Benches and desks of birch, varnished, will cost little more than deal, and be better appreciated and taken care of; but they may warp if not made of wood particularly well seasoned. Do not screw the fittings to the floor, but either have them heavy and firm enough in their own weight to be not easily capable of accidental displacement, and yet such as may be lifted from one part of the room to another; or screw them to sleepers, and lay the sleepers loose on the floor. The benches at least should be so constructed as to stand each by itself when wanted, apart from the sleepers.

The hindmost bench and desk should be somewhat taller than those of the middle row, and the latter should be somewhat taller than the front row. In opposition to the ordinary opinion and practice, I advise you to provide a larder and pantry—small ones will suffice—in the teacher's house, and to let there be plenty of cupboards and presses in the school and in the house, and coal cellars capable of containing a year's supply: It is also as well not to forget to lay on water, or to provide a well and pumps.

Have the ground so made up to the entrances of the schools that there may be no need of high flights of steps. There should not be more than a single step, if any, at the entrance of an infant school. There should be a provision for washing hands, but not on a large scale; the children should come to school with clean hands. Never provide a separate entrance for visitors, but keep the children's lobbies in a state fit for the passing of visitors, and if the children's doors are large enough to admit crinoline of reasonable size, unreasonable crinoline need not be admitted.

Allow no inferior nor unduly perishable materials to be used in the building; let everything be of the most durable character. In regard to the architectural style, I say only let it be pure and simple. (*Pace* Lord Palmerston and Mr. Tite), I have seen many excellent Gothic designs, some good Elizabethan designs, and some few very bad Italian designs for schools. Whatever you do, do not allow of any false architecture; let the beauty of the building depend on its good proportions, its good materials and workmanship, its correct details, and on its exterior's truthfully representing the facts of the interior. For example, do not turn the master's kitchen into a crystal palace on a small scale, under the notion that, where you want a window of moderate dimensions, you may have a great big one to balance another big one, very properly placed, in one of the end walls of a school-room. Do not allow breaks and projections for mere

effect, where uses point to unbroken lines; forbid all construction of ornament as ornament, and let the real structure of the building be ornamental. Let the ground plan be first settled as convenience may point out, and let the elevations absolutely follow the carefully-arranged ground plan. Never let the ground plan be tampered with, under the idea of improving the elevation; for effect and utility combined, let the chimneys be lofty and massive. About open roofs, where all the timbers are shown, I confess myself somewhat heretical. *Non equidem invideo, miror magis*; hot in summer, cold in winter, they are more handsome than comfortable. For comfort give me a ceiled room, having a good air-chamber between the ceiling and the roof; if you object to a ceiling, even at the collar beam, you must at least ceil to the rafters, and insert a layer of felt; and you should board to the under side of the rafters.

Never let anyone persuade you that the site does not require draining,—

Let sites be drained that ne'er were drained before,
And those that have been drained, be now drained more.

Let your entire plot be thoroughly drained, well fenced, and properly laid out. I saw a few weeks ago a pretty and convenient school-room, having a large playground particularly well covered with macadamized granite in good large cubes and triangles; and I have often seen playgrounds covered with such coarse gravel that I have thought the managers of the school must belong to the sect of St. Crispin. To encourage habits of honesty, ideas of *meum* and *tuum*, in the children, let fruit trees be planted on the walls, let the children be taught to train and prune the trees, and to keep them in health; and let the fruit form part of the annual school-feasts. Provide small gardens, if you can, for the elder scholars; have a sty for a pig or two; some hutches for rabbits; a few bee hives; a place for poultry; and, if possible, a small shed

for carpenter's work. Simple pleasures of these kinds make children love their schools.

Provide a few elementary contrivances for gymnastic exercise.

I have said nothing about the industrial training of girls, except in regard to needlework. A small wash-house and laundry, not too well supplied with extraordinary refinements of convenience, are invaluable adjuncts to a girls' school; and, if you wish to prepare your female children to become hereafter efficient wives and mothers of families, you must really contrive to give them instruction in housework, and in cooking—in cooking for the sick as well as for the healthy appetites. Mr. Tufnell desired the girls in a school to write answers to the following question:—"What should 'you do for a cold?'" One little girl wrote, "I should 'make him some nice gruel, and put him to bed.'" She must have been a nice little girl, and would be a jewel of a wife, if she really could "make him some *nice* gruel."

You will of course insure the buildings against fire; and I must now speak of the warming and ventilating of schools. I confess myself the author, or rather the compiler, of a stove. Here is a diagram, No. 2, which exhibits it. We have an open fire which assists in ventilating, while it warms, the room. This fire-box, or receptacle for the fire, is constructed entirely of brick, except the bars and the bottom. The brick may be Stourbridge lumps, or any other material that will stand the heat. I believe that the red paving bricks of Hertfordshire are as good as any others. The back, the sides, the top, are brick. You may ornament it as much as you like with impressed tile or slate. The front is wider than the back in the proportion of 4 to 3. The bottom is moveable, a strong plate of iron; its edge is turned up in front, about two inches, to reduce the draft near the bottom. The receptacle stands in the centre of

the ordinary chimney recess, almost clear of the back wall, but united to it by the brickwork of the flue. The flue enters the wall, nearly at a right angle, just above the fire. The throat is exceedingly small; but, when sweeping is required, may be enlarged by the removal of a loose brick or slab. Fresh air is brought by pipes from outside, which pass under the floor, up by the sides of the stove, where the air gets warmed, and into the room above the top of the stove. There are dampers to regulate the admission of the air. This is the day stove. You fill it, from the bottom to the level of the top bar, with coal well rammed down to exclude air; place a little paper and wood on the coal, and a very little cinder or coal on the wood. Light it, and leave it alone, and it will burn from 8 o'clock in the morning till 9 or 10 o'clock at night. It burns downwards like a candle, at first fiercely, afterwards more and more slowly, as getting lower and lower the draft becomes less. It consumes a great deal of its smoke.

Before the day fire is quite burnt out, introduce below the false-bottom of the day stove, the night stove filled with coal. The night stove is similar in construction, but smaller. It is, in fact, an iron coal-scuttle which runs in like a drawer under the upper stove; pull out the false-bottom of the upper stove, and the burning remains of the day's fire, falling on the fresh coals in the drawer, will ignite them, and they will burn downwards slowly, all through the night, keeping the stove and the chimney warm, and preparing for the children, when they arrive in the morning, a genially warm reception, though the day fire will have only just been lighted. You observe that, during the whole of the day and night, the stove is drawing warm fresh air into the room. If you do not wish for the night stove, you should place the day stove somewhat lower on a solid bottom of brick; but the quantity of coal consumed at night is very small, and well applied. The mode of warming and ventilating, which I recommend for

schools, is equally applicable to private dwellings. I have but one additional remark to make on this topic. When you want a good fire-place, give a wide berth to your iron-monger. It ought to be adjudged to be felony for an iron-monger to make a stove.

Let us now, for a few minutes, examine the third diagram. It shows a group of buildings designed for Earl Granville, by Mr. Hawkins, the architect to the Committee of Council on Education, in 1854. It was presented by his Lordship to the Society of Arts for its Educational Exhibition at St. Martin's Hall. In the adjoining museum there is a fine model from this design. We see a large group of buildings, three schools, with their respective lobbies, class-rooms, fittings, offices, and playgrounds, all arranged so as to illustrate the rules of the Committee of Council. No part of the exterior walling is less than a brick and a half in thickness; none of the school-rooms is less than 11 feet in height to the under side of the wall-plate. There is no waste of the internal area. There is no internal communication between any part of any school and any house. No class-room is used as a passage. There are a parlour, a kitchen, and a scullery on the ground-floor, none of them less than 8 feet high; there are three bed-rooms in an upper story; all of them are of the prescribed heights, not less than 7 feet 6 inches to the plate. The staircase rises from a lobby, and not from a room. There is a fire-place in each bed-room, and no bed-room is used as a passage to any other room.

All such points as can be prescribed in detail are set forth in the printed instructions set forth by the Council Office; but let me warn you never to commence any works under a mere expectation that they will prove to be in conformity to those instructions. Your plans, specifications, and estimates must be approved, and *sealed*, by their Lordships before you commence the works.

Let us now suppose that "My Lords" have approved of your plans, specifications, estimates, and local contributions to meet their grant; and that they are satisfied with the statement of the title of the owner of the proposed site: you have still to procure their approval of a draft of the proposed conveyance. In making out your draft, you should bear in mind that the form of conveyance, furnished to you by their Lordships, may not be altered so as to narrow the religious basis of the school, or the general discretion of the managers, but may be so altered as, in any reasonable manner, to enlarge that basis and that discretion. I particularly recommend you to insert provisions whereby the parents of the scholars, paying the proper school-fees, may elect some representatives of themselves to be members of the committee of management.

The draft approved, the grant awarded, and the purchase of the site completed, if you now quite clearly see your way to obtain the balance, and to fulfil all the conditions of the grant, within 18 months from the date of the letter which announced it, you can now submit the works to competition among a limited number of substantial and trustworthy builders; enter into a contract with him whose tender is lowest; and let the works be commenced, under the direction of your architect, and under the supervision of a competent clerk of the works.

Let me, however, again and again caution you not to execute any works, nor to enter into any contract, until you do quite clearly see your way to obtain the balance and to claim the grant. The awards are made according to arithmetical rules, and cannot be augmented because you may have miscalculated your resources. An undertaking of this kind is seriously discredited, and its friends are disheartened, when they who have cheerfully contributed to it are compelled to make further contributions, which perhaps they can ill afford, as the only alternative for the failure of the

whole design. Let us, however, suppose that you see your way to the balance.

I advise you to give, at this stage of the undertaking, all possible dignity and solemnity to your proceedings. Have Divine service celebrated in the church; march thence, in a parochial procession of rich and poor, to the site; and there, with a brief service of prayer and praise, solemn chant, and many-voiced hymn, let the first stone of your school be laid.

Do not throw away the period that must elapse between this ceremony and the opening of the school. Let the committee of management occasionally meet to talk out their future course, and to determine the many doubtful points, which, as they are determined, will fix the character of the school as good, bad, or indifferent. The first members of the committee, including the representatives of the parents, should be named in the deed, and you will find that the presence of the parents in your preliminary councils, will tend to make your motives understood and appreciated, and will largely conciliate the opinions of the poor in favour of the school.

I will mention a few points which you will do well to dispose of now.

1. If there are any small charitable endowments which, with or without the authority of the Commissioners of Public Charities, may be made available for the school, I advise you to apply them strictly on the principle *detur digniori*. Let every child, who is of fair character, be allowed to compete in examination for the advantages, whatever they may be.

2. Seldom or never clothe the children, unless, on the same principle, *detur digniori*, you give a dress of honour,—not a grotesque costume, nor a badge of poverty, to those who have done best in a competitive examination.

3. Why should Saturday be a whole holiday in elementary schools? I know that it is a convenience to the teacher; but I believe it to be an injury to the school. Persons

engaged in other professions and callings have no such holiday. More children get into mischief on Saturday than on any other day. It might be a convenience, sometimes, to the poor mother to have her elder children at home, to help her, on Saturday; but the little ones at home on that day are a sore incumbrance to her.

4. You will, I hope, have a good school library of interesting and amusing books, and encourage the children to buy their own class books and reading books.

5. Frequently let the children have lessons to learn at home; take care that those lessons are, as far as possible, such as may be the most likely to be understood by, and interesting to, their parents.

6. Send to each parent a quarterly report of his children's conduct and progress.

7. Let portions of the annual examination be held of an evening, and invite the parents to be present.

8. Encourage the children to make little collections of natural history; *e.g.*, the plants, insects, shells of the neighbourhood; help them to arrange and classify their collections; the habit of observation thus created will be invaluable to them in a thousand ways.

9. Fill your school as full as possible of music, vocal and instrumental.

10. Let every child be taught to draw.

11. Advertise and inquire for teachers some months before their services will be required, and let them come into the parish at least a month before the school is opened, in order that they become acquainted with the managers and with the parents of the expected scholars.

12. Give a liberal salary to the best teacher that you can get. You will find it easier to raise a large sum towards the maintenance of an excellent school, than a small sum towards the maintenance of an indifferent school. Undertake to raise his salary a small fixed sum every year that he remains

with you. Enter into a written contract with him, which may exactly define the particulars of his engagement and prevent future embarrassments.

Bear in mind that, though the grant will be paid as soon as the conditions on which it was awarded have been fulfilled to the satisfaction of the Committee of Council, the grant cannot be claimed by instalments.

When the building is finished, let me particularly caution you not to allow it to be opened until everything has been completed, without exception, and every penny that is necessary to meet the grant from the Committee of Council on Education, and to discharge every obligation of every kind, legal or moral, has been contributed by absolute donations actually paid.

Everything requisite having been supplied, so that you can claim the grant without any mental reservation, and that the annual income, which you are not likely to find inconveniently swelled to superfluity, may not be drawn upon to make good deficiencies which ought to have been supplied in the original outlay, including the provision of substantial furniture for the teacher's house, open your school-buildings with a religious festivity shared by both rich and poor; and open the school in faith and hope that God will bless the good work of your hands; and that it may help, in its measure, to realize the pious wish of the Queen expressed when she first appointed a Committee of Her Privy Council on Education, "that the youth of this country may be religiously brought up."

DIAGRAM No. 1.

